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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,437	10/25/2004	Hiroshi Takahara	259686US2PCT	3978

22850 7590 07/23/2009  
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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CHOWDHURY, AFROZA Y

ART UNIT	PAPER NUMBER
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2629

NOTIFICATION DATE	DELIVERY MODE
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07/23/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/511,437	<b>Applicant(s)</b> TAKAHARA, HIROSHI	
	<b>Examiner</b> AFROZA Y. CHOWDHURY	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,4-6,15-28,31,32,34 and 35 is/are pending in the application.
- 4a) Of the above claim(s) 5,6,16 and 19-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,15,17,18,31,32,34 and 35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/17/2009, 2/15/2009</u> .                                    | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's request for continued examination filed on **June 26, 2009** has been entered. Claims 1, 4-6, 15-28, 31, 32, 34, and 35 are currently pending. Claims 5, 6, 16, and 19-28 are non-elected claims. Applicant's amended claims are addressed herein below.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 4, 15, 17, 18, 31, 32, 34, and 35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 1 and 4, "**weighting image data**", "**weighted image data**", and "**image data to be impressed to the respective pixels of the EL display apparatus**" are not described in the specification as submitted originally.

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4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 4, “**image data to be impressed to the respective pixels of the EL display apparatus**” is not clear.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 4, 15, 17, 18, 31, 32, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Tsuda et al.** (US Patent 7,321,353) in view of **Kurabayashi et al.** (US Patent 6,105,045) and in further view of **Yokota et al.** (US Patent 6,633,274).

As to claim 1, Tsuda et al. discloses a drive method of an EL display apparatus that comprises

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a display screen in which a plurality of pixels each of which includes an EL element (fig. 25(114)), in each pixel (col. 30, lines 25-50), the drive method comprising: data input to the EL display apparatus (fig. 29, col. 39, lines 45-60); and calculating a period to turn off a current that flows in the EL element based on an amount of the data (col. 42, lines 50-63).

Tsuda et al. does not specifically teach aggregating image data input to the EL display apparatus.

Kurabayashi et al. teaches aggregate area display unit (fig. 2, col. 6, lines 1-17, 45-49, as best understood).

Therefore, it would have been obvious to one skill in the art at the time of the invention was made to incorporate the idea of Kurabayashi et al. of using aggregate unit to aggregate image data into the display device of Tsuda et al. to make a display apparatus with high resolution images and reduced power consumption.

Tsuda et al. (as modified by Kurabayashi et al.) does not teach displaying a non-display area on the display screen of the EL display apparatus according to the calculated period to turn off the current that flows in the EL element, and shifting the non-display area on the display screen.

Yokota et al. teaches displaying a non-display area on the display screen of the EL display apparatus according to the calculated period to turn off the current that flows in the EL element, and shifting the non-display area on the display screen (fig. 5).

Therefore, it would have been obvious to one skill in the art at the time of the invention was made to incorporate the idea of Yokota et al. of shifting the non-display

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area on the display screen into the display device of Tsuda et al. (as modified by Kurabayashi et al.) to make an EL display apparatus in order to reduce total power consumption (as best understood).

As to claim 4, Tsuda et al. teaches an EL display apparatus including a display screen in which a plurality of pixels each of which includes an EL element (fig. 25(114)), in each pixel (col. 30, lines 25-50), the drive method comprising:

a gate driver circuit (fig. 29(203), col. 41, lines 50-51) that selects a line of the pixels (fig 1, col. 30, lines 14-20;

an circuit configured to supply image data input to the EL display apparatus (fig. 29, col. 39, lines 45-60); and

a control circuit (fig. 29(205)) that controls a timing or a period to generate a start pulse signal for the gate driver circuit based on the image data (col. 39, lines 32-38).

Tsuda et al. does not explicitly teach an aggregation circuit configured to aggregate image data input to the EL display apparatus.

Kurabayashi et al. teaches aggregate area display unit (fig. 2, col. 6, lines 1-17, 45-49).

Therefore, it would have been obvious to one skill in the art at the time of the invention was made to incorporate the idea of Kurabayashi et al. of using aggregate unit to aggregate image data into the display device of Tsuda et al. to make an EL display apparatus with better quality images and reduced power consumption.

Tsuda et al. (as modified by Kurabayashi et al.) does not teach a display device where a control circuit that controls the start pulse signal so as to display a non-display area on the display screen and shifts the non-display area on the display screen.

Yokota et al. teaches a display device where a control circuit that controls the start pulse signal so as to display a non-display area on the display screen and shifts the non-display area on the display screen (fig. 5).

Therefore, it would have been obvious to one skill in the art at the time of the invention was made to incorporate the idea of Yokota et al. of shifting the non-display area on the display screen into the display device of Tsuda et al. (as modified by Kurabayashi et al.) to make an EL display apparatus in order to reduce total power consumption (as best understood).

As to claim 15, Tsuda et al. (as modified by Kurabayashi et al. and Yokota et al.) does not explicitly teach a drive method of an EL display apparatus wherein the non-display area is displayed in a generating a belt-like form on the display area of the EL display; and the non-display area is shifted in the belt-like form in a predetermined direction synchronized with a frame frequency (fig. 5 in Yokota et al.).

As to claim 17, Tsuda et al. (as modified by Kurabayashi et al. and Yokota et al.) discloses an EL display apparatus comprising:

a selection circuit formed on a substrate on which the EL elements are formed (fig. 1, col. 30, lines 14-20, in Tsuda et al.) ; and

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the source driver circuit (fig. 29(204)) outputs a video signal of a first color or a video signal of a second color from a signal output terminal (col. 39, lines 22-31, in Tsuda et al.),

a source driver circuit (fig. 29(204), col. 41, lines 50-51, in Tsuda et al.), wherein the substrate includes source signal lines to supply the video signals of the source driver circuit to the EL elements (fig. 1, in Tsuda et al.),

the selection circuit includes an input terminal to connect to the signal output terminal of the source driver circuit and a selection output terminal to connect to the source signal line (fig. 58, col. 39, lines 23-31, col. 61, lines 22-32, in Tsuda et al.),

the selection circuit includes a plurality of combinations of one output terminal and a plurality of selection output terminals configured to connect to the one output terminal (fig. 58, col. 39, lines 23-31, col. 61, lines 22-32, in Tsuda et al.), and

the selection circuit applies a video signal of the source driver circuit input to the input terminal of the selection circuit to the source signal line connected to the one or plural of selection output terminals that are selected from the plurality of the selection output terminals (fig. 58, col. 39, lines 23-31, col. 61, lines 22-32, in Tsuda et al.).

As to claim 18, Tsuda et al. (as modified by Kurabayashi et al. and Yokota et al.) teaches an EL display apparatus comprising a source driver circuit that applies a gradation signal to the EL elements, wherein the source driver circuit includes a voltage output circuit and a current output circuit (col. 41, line 65 – col. 42, line 14, in Tsuda et al.).



As to claim 29, Tsuda et al. (as modified by Kurabayashi et al. and Yokota et al.) teaches a drive method of an EL display apparatus wherein the shifting the non-display area in the display screen is performed synchronizing with one frame period (fig. 5 in Yokota et al.).

As to claim 30, Tsuda et al. (as modified by Kurabayashi et al. and Yokota et al.) discloses a drive method of an EL display apparatus wherein in the display screen of the EL display apparatus the plurality of the pixels formed in the matrix have a plurality of colors, and the data input to the EL display apparatus is processed weighted according to each of the plurality of colors (fig. 5 in Yokota et al.).

As to claim 31, Tsuda et al. (as modified by Kurabayashi et al. and Yokota et al.) teaches an EL display apparatus wherein brightness of the display screen is controlled by varying a ratio of the non-display area to the display screen (fig. 5 in Yokota et al.).

Claim 32 is rejected the same as claim 29 above.

As to claim 34, Tsuda et al. (as modified by Kurabayashi et al. and Yokota et al.) teaches an EL display apparatus wherein the display screen includes the plurality of pixels having a plurality of colors, and at least one color of the plurality of colors is different from the other colors of the plurality of colors in size (fig. 5 in Yokota et al.).

As to claim 35, Tsuda et al. (as modified by Kurabayashi et al. and Yokota et al.) teaches an EL display apparatus wherein the non- display area is divided into a plurality of parts (fig. 5 in Yokota et al.).

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 1, 4, 15, 17, 18, 31, 32, 34, and 35 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AFROZA Y. CHOWDHURY whose telephone number is (571)270-1543. The examiner can normally be reached on 7:30-5:00 EST, 5/4/9.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AC  
7/16/2009

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